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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/514,419	11/13/2004	Akimitsu Tsuda	JP02 0013 US	1241

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EXAMINER

LOVELL, LEAH S

ART UNIT	PAPER NUMBER
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2875

DATE MAILED: 08/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/514,419

Applicant(s)

TSUDA ET AL.

Examiner

Leah S. Lovell

Art Unit

2875

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 November 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 November 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 13 November 2004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to because they do not indicate the claimed polarization axis. Applicant is reminded that all claimed subject matter must be shown in the figures. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

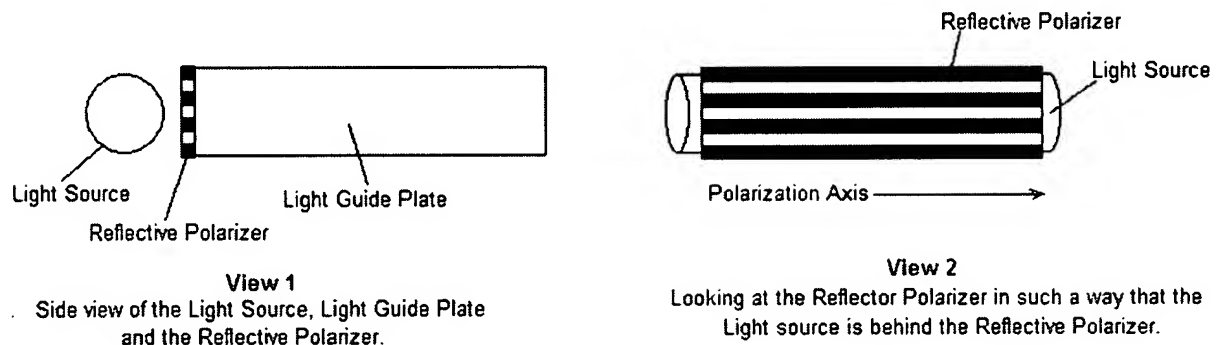
Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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3. Claims 5 and 12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The Examiner is uncertain how the polarization axis is parallel with the groove direction of the reflecting prism face. The Examiner has included the figures below to clearly depict how the polarization axis has been interpreted and how it will be referred to for the rest of the office action:



In both view 1 and view 2, light can only travel through the white portions of the reflective polarizer. The polarization axis is shown in view 2; in view 1, the polarization axis can be found running in and out of the page (a plane perpendicular to the plane of the page)

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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5. Claims 1, 2, 6-9, 13, and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Taira et al. (US 5,712,694).

In regard to claim 1, Taira discloses a liquid crystal display device including a liquid crystal cell having a reflective member and a surface lighting device for supplying the light to said liquid crystal cell, said surface lighting device comprising:

a light guide [1506, figure 20] having a reflecting prism face [1506, 1509] and light emitting face [figure 20, across from reflecting prism face—can see “light beam” emitted through the face] opposed to said reflecting prism face, wherein the incident light is transmitted inside of said light guide, the transmitted light is reflected on said reflecting prism face, and the reflected light is emitted from said light emitting face to said liquid crystal cell [figure 20];

light generating means [1501] for generating the light for emitting to said light guide;

light efficiency increasing means [1503] arranged between said light guide and said light generating means [figure 20], for increasing the efficiency of the light which is emitted from said light generating means to said light guide.

Regarding claim 8, Taira discloses a surface lighting device comprising:

a light guide [1506, figure 20] having a reflecting prism face [1506, 1509] and light emitting face [figure 20, across from reflecting prism face—can see “light beam” emitted through the face] opposed to said reflecting prism face, wherein the incident light is transmitted inside of said light guide, the transmitted light is reflected on said reflecting prism face, and the reflected light is emitted from said light emitting face to said liquid crystal cell [figure 20];

light generating means [1501] for generating the light for emitting to said light guide;

light efficiency increasing means [1503] arranged between said light guide and said light generating means [figure 20], for increasing the efficiency of the light which is emitted from said light generating means to said light guide.

In regard to claims 2 and 9, Taira discloses said light efficiency increasing means having a reflective polarizer [1503] arranged in the light guide side [column 17, lines 52-53].

Regarding claims 6 and 13, Taira discloses said light generating means having a light source [101], and a light guide member [1001] for transmitting the light emitted from said light source to feed the end portion of said light guide, said light guide member having an anti-dispersion shape which reduces the dispersion of the incident light from the end portion of said light guide [figure 11A].

In regard to claims 7 and 14, Taira discloses said light guide having an anti-dispersion shape which reduces the dispersion of the incident light from the end portion of said light guide [figure 11A].

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 3-5 and 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taira (US 5,712,694).

Regarding claims 3 and 10, Taika discloses the claimed invention except said light efficiency increasing means having a retardation plate [1504] arranged between said reflective polarizer and said light generating means. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to rearrange the retardation plate such that it lies between the light source and the reflective polarizer, since it has been held that rearranging parts of an invention involves only routine skill in the art. In re Japiske, 86 USPQ 70.

In regard to claims 4 and 11, Taika discloses said retardation plate is arranged such that the light reflected on said reflective polarizer changes the linearly polarized light of polarization axis in said reflective polarizer [column 14, line 66-column 18, line 4].

In regard to claims 5 and 12, while Taika does not directly disclose a direction of said polarization axis is in parallel with a groove direction of said reflecting prism face in said light guide, the surface lighting device of Taika comprises all the essential working parts of the instant application. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made for the polarization axis to aligned in a direction parallel to the direction of the grooves of the reflecting prism. One would be motivated to do so to maximize the light transmitted into the light guide from the light source.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- Bao et al. (US 6,266,108)
- Okada (US 6,494,588)
- Lammers (US 6,672,734)

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leah S. Lovell whose telephone number is (571) 272-2719. The examiner can normally be reached on Monday through Friday 7:45 a.m. until 4:15 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Renee Luebke can be reached on (571) 272-2009. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Leah Lovell
Examiner
31 July 2006



JOHN ANTHONY WARD
PRIMARY EXAMINER